

refer to *Nototherium* beyond suggesting that they may indicate young individuals or a small species of *Diprotodon* itself.

I may add that in the 'Catalogue' I provisionally followed Prof. Flower in not regarding *Nototherium inerme* as distinct from *N. Mitchellii*; and the foregoing considerations regarding the abnormal tooth of no. 33259 are somewhat in favour of that view. Still there is a possibility that *N. inerme* may indicate a distinct species, and in that case the premolars figured by Mr. De Vis in the plate accompanying his paper as types of his *N. dunense* will be certainly referable to the former species. The figured upper premolar is indeed almost identical with a cast of a tooth of the opposite side in the British Museum (no. M. 3643, Cat. p. 164).

Lastly, the generic name *Owenia*, proposed by Mr. De Vis for a small form apparently closely allied to *Nototherium*, is preoccupied at least three times over, the earliest application of the name dating from 1847.

#### BIBLIOGRAPHICAL NOTICE.

*Bergens Museums Aarsberetning for 1887.* 8vo. Bergen, 1888.

THE Annual Report of the Museum at Bergen for 1887 certainly does not yield to its predecessors in interest. The first article, written in English by Prof. D. C. Danielssen, is particularly important; it relates to the "Actinida of the Norwegian North-Atlantic Expedition," and reveals the existence of what seems to be a perfectly novel series of characters in certain forms which would be taken to belong to the *Peachia* and *Ilyanthus* type of Sea-Anemones. The most remarkable point in the structure of these creatures consists in the presence of a complete intestinal canal, running directly from the mouth to the posterior extremity, where it opens outwards through a regular anal pore. Of course the presence of a pore at this point in certain genera of Sea-Anemones is a well-known fact, but in none of these is there a regularly formed intestine, and the peculiarity of the type is further increased by the complete division of the body-cavity into longitudinal chambers by septa joined throughout to the intestine. One can quite sympathize with Dr. Danielssen in the "dubiety" which he entertains as to the "systematic position of these remarkable animals," which are not Cœlenterates, although they certainly "belong to the great animal-group of Radiata." Dr. Danielssen recognizes two genera, which he somewhat fancifully names *Ægir*, after the Scandinavian Neptune, and *Fenja*, after a sorceress supposed to reside at the bottom of the sea and to occupy herself in grinding salt! The

structure of the animals, which were obtained by deep dredging at four different stations, is described at some length by Dr. Danielssen, and pretty fully illustrated on three quarto plates.

The two new Cornulariæ from the Norwegian coast described by Mr. James A. Grieg in the second article can make no claim to the somewhat romantic interest attaching to Dr. Danielssen's Actinida, although they also form part of the spoils of the North-Atlantic Expedition. They are unmistakable Alecyonarians belonging to known genera, namely *Rhizoxenia alba* and *Sympodium margaritaceum*, and they are carefully described and well figured. Short characters and an explanation of the two plates are given in English.

Mr. Grieg also publishes the first of a projected series of articles on the fauna of the Westland fjords, in which he deals with the animal life of the Møsterfjord, and gives lists of the Mollusca, Tunicata, and Coelenterata which have been ascertained to inhabit that locality. He indicates the rarity or abundance of the different species and has remarks upon their mode of occurrence. The Porifera are noticed as Coelenterata.

The last article in the volume, written, like the first, in English, shares with it in zoological interest, and bears the following title:—“A Protandric Hermaphrodite (*Myxine glutinosa*, L.) amongst the Vertebrates.” The author, Dr. Fridtjof Nansen, Curator of the Bergen Museum, describes the circumstances which led him to the conclusion that the hagfish is a protandric hermaphrodite, and goes in some detail into a discussion of the phenomena of reproduction in the *Myxine*. His conclusions are summarized as follows:—

“1. *Myxine glutinosa* is a protandric hermaphrodite. Up to a body-length of about 32 or 33 centimetres it is a male, after that time it produces ova.

“2. The proportion between the posterior male portion of the reproductive organ and the anterior female portion is not constant: the male portion is generally, however, about one third of the whole length of the organ.

“3. The few “true” males of *Myxine* observed are probably transformed hermaphrodites.

“4. The young testicular follicles or capsules have a structure quite similar to that of the young ovarian follicles. They contain a large sexual cell, spermatogon, which is enveloped by an epithelium, follicular epithelium, and a connective-tissue envelope.

“5. The spermatogon is, by subdivision, converted into spermatides, which are separated from each other and swim in a fluid inside the testicular capsules. By gradual elongation of the nucleus, as well as the whole cell, the spermatides are converted into ripe spermatozoa, which pass into the body-cavity when the testicular capsules burst.

“6. Nearly ripe spermatozoa may be found in specimens of *Myxine* at every season of the year.

“7. *Myxine* deposits its ova at every season of the year.”

Two other natural-history articles are of botanical interest, dealing with the diseases of certain important plants. Both are from the pen of Dr. J. Brunchorst. The first (in Norwegian) is a revision of the plant-diseases of economic importance which occur in Norway, and gives the results of a special journey undertaken by the author for the purpose of investigating the diseases which affect the principal cultivated plants, and contains his observations upon barley, rye and oats, potatoes, clover, turnips, and kale, also upon natural pine-woods, fruit-trees, hops, and roses. In the majority of cases the mischief is done by fungi, which is also the case with the disease of the black-fir (*Pinus austriaca*), which forms the subject of Dr. Brunchorst's second memoir (in German). This disease, which attacks the needles and twigs of the trees, seems to have been very injurious; but the fungus which causes it cannot be identified further than that it is the pyrenidian stage of an Ascomycetan. It also attacks the dwarf pine (*Pinus montana*), which has been planted over a great extent of the west coast of Norway. This paper is illustrated with two plates.

The only other article in this Report is an account by M. A. Lorange of the discovery in a mound near the Karmsund of a portion of a vessel of the age of the Vikings; but the antiquary will also find some interesting objects figured upon two plates representing specimens presented to the Museum during the year.

## MISCELLANEOUS.

*On a new Parasite of Amphiura.* By J. WALTER FEWKES.

THE Secretary read a communication on the parasitism of a Crustacean in the brood-cavities of a common brittle-star (*Amphiura squamata*), which he had discovered while at work in the Marine Laboratory at Newport.

The Ophiurans, or brittle-stars, have two methods of development or metamorphosis, known as the direct and indirect. In the indirect the young passes through a stage called the pluteus, in which a provisional organism is developed from which the young form by budding, the provisional organism or pluteus being eventually absorbed by the growing young of the brittle-star. Our common *Ophiopholis* (*O. aculeata*) has such a pluteus. In the case of other Ophiurans, such as *Amphiura*, however, there is no free pluteus in their metamorphosis, but the young are developed, without nomadic stages, in special sacs of the mother, called brood-sacs, of which there are ten situated in pairs on each side of the [bases of the] arms. The young *Amphiura* passes its early life in these sacs, at first attached by an umbilicus, afterwards free, and remains there until it